

[DOCUMENT NAME] SCOPE OF CLAIM FOR PATENT

1 An information providing system for providing
information responding to a retrieval request from a
terminal, characterized in comprising:

5 a database having information, which an information
provider provides, and a bid amount of money of said
information stored correspondingly;

a displaying order deciding means for selecting
corresponding pieces of information from said database
10 responding to the retrieval request of information to
decide a displaying order of said information based upon
the bid amount of money that corresponds to each of these
pieces of information; and

a means for transmitting information to the terminal
15 so that information is displayed in said decided
displaying order.

2 The information providing system according to claim 1,
characterized in that said displaying order deciding means
20 is configured so as to decide the displaying order of
information based upon a probability that is calculated
from a ratio of the bid amount of money of each selected
information over a sum of bid amounts of money of selected
pieces of information.

3 The information providing system according to claim 2,
characterized in that:

said displaying order deciding means comprises:

a sum-of-bid-amount-of-money calculating means for
5 acquiring the bid amount of money that correspond to
information to calculate a sum of these bid amounts of
money;

a ratio calculating means for calculating a ratio of
the bid amount of money of information over said sum of
10 bid amounts of money information by information; and

a displaying order deciding means for deciding one
piece of information, which is displayed, from pieces of
information based upon a probability proportional to
magnitude of said calculated ratio of each information;
15 and

said displaying order deciding means is configured so
that:

in a case where the number of selected pieces of
information is m and the number of display is n , said sum-
20 of-bid-amount-of-money calculating means calculates a sum
of bid amounts of money of m pieces of information, said
ratio calculating means calculates a ratio of the bid
amount of money of each of m pieces of information, and
said displaying order deciding means decides information
25 of which the displaying order is a first rank based upon a

probability proportional to magnitude of each of said ratios of m pieces of information;

continuously, said sum-of-bid-amount-of-money calculating means calculates a sum of bid amounts of money of $(m-1)$ pieces of information except the bid amount of money of the information decided in said displaying order deciding means, said ratio calculating means calculates a ratio of the bid amount of money of each of $(m-1)$ pieces of information except the bid amount of money of the information decided in said displaying order deciding means, and said displaying order deciding means decides information of which the displaying order is a second rank based upon a probability proportional to magnitude of each of said ratios of $(m-1)$ pieces of information;

this computation is performed until information of which the displaying order is an $(n-1)$ -th rank is decided; and

finally, said sum-of-bid-amount-of-money calculating means calculates a sum of bid amounts of money of $(m-n+1)$ pieces of information except the bid amount of money of the information decided in said displaying order deciding means, said ratio calculating means calculates a ratio of the bid amount of money of each of $(m-n+1)$ pieces of information except the information decided in said displaying order deciding means, and said displaying order

deciding means decides information of which the displaying order is an n-th rank based upon a probability proportional to magnitude of each of said ratios of (m-n+1) pieces of information, thereby allowing the
5 displaying order of information ranging from a first rank up to an n-th rank to be decided.

4 The information providing system according to one of claim 2 and claim 3, characterized in that:

10 said information providing system comprises:

a means for recording the number of times of display of each information in the terminal;

a means for recording the click number of each information displayed in the terminal; and

15 a means for calculating a ratio of the click number to said number of times of display for each selected information; and

said displaying order deciding means decides the displaying order of information based upon a probability
20 that is calculated from a ratio of the bid amount of money of information over said sum of bid amounts of money and a ratio of the click number to said number of times of display.

25 5 A program of an information providing server for

providing information responding to a retrieval request from a terminal, characterized in causing said server to function as;

5 a displaying order deciding means for, responding to the retrieval request of information, selecting corresponding pieces of information from a database having information, which an information provider provides, and a bid amount of money of said information stored correspondingly to decide the displaying order of said
10 information based upon the bid amount of money that correspond to each of theses pieces of information; and
a means for transmitting information to the terminal so that information is displayed in said decided displaying order.

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6 The program according to claim 5, characterized in causing said displaying order deciding means to decide the displaying order of information based upon a probability that is calculated from a ratio of the bid amount of money
20 of each selected information over a sum of bid amounts of money of selected pieces of information.

7 The program according to claim 6, characterized in:
causing said displaying order deciding means to function
25 as:

a sum-of-bid-amount-of-money calculating means for acquiring the bid amount of money that corresponds to information to calculate a sum of these bid amounts of money;

5 a ratio calculating means for calculating a ratio of the bid amount of money of information over said sum of bid amounts of money information by information; and

a displaying order deciding means for deciding one piece of information, which is displayed, from pieces of
10 information based upon a probability proportional to magnitude of said calculated ratio of each information; and

causing said displaying order deciding means to operate so that:

15 in a case where the number of selected information is m, and the number of the display is n, said sum-of-bid-amount-of-money calculating means calculates a sum of bid amounts of money of m pieces of information, said ratio calculating means calculates a ratio of the bid amount of
20 money of each of m pieces of information, and said displaying order deciding means decides information of which the displaying order is a first rank based upon a probability proportional to magnitude of each of said ratios of m pieces of information;

25 continuously, said sum-of-bid-amount-of-money

calculating means calculates a sum of bid amounts of money of $(m-1)$ pieces of information except the bid amount of money of the information decided in said displaying order deciding means, said ratio calculating means calculates a
5 ratio of the bid amount of money of each of $(m-1)$ pieces of information except the bid amount of money of the information decided in said displaying order deciding means, and said displaying order deciding means decides information of which the displaying order is a second rank
10 based upon a probability proportional to magnitude of each of said ratios of $(m-1)$ pieces of information;

this computation is performed until information of which the displaying order is an $(n-1)$ -th rank is decided; and

15 finally, said sum-of-bid-amount-of-money calculating means calculates a sum of bid amounts of money of $(m-n+1)$ pieces of information except the bid amount of money of the information decided in said displaying order deciding means, said ratio calculating means calculates a ratio of
20 the bid amount of money of each of $(m-n+1)$ pieces of information except the bid amount of money of the information decided in said displaying order deciding means, and said displaying order deciding means decides information of which the displaying order is an n -th rank
25 based upon a probability proportional to magnitude of each

of said ratios of $(m-n+1)$ pieces of information, thereby allowing the displaying order of information ranging from a first rank up to an n -th rank to be decided.

- 5 8 The program according to one of claim 6 and claim 7, characterized in causing:

 said server to function as:

 a means for recording the number of times of display of each information in a terminal;

- 10 a means for recording the click number of each information displayed in the terminal; and

 a means for calculating a ratio of the click number to said number of times of display for each selected information; and

- 15 said displaying order deciding means to operate so that the displaying order of information is decided based upon a probability that is calculated from a ratio of the bid amount of money of information over said sum of bid amounts of money and a ratio of the click number to said
20 number of times of display.

- 9 An information providing method of providing information responding to a retrieval request from a terminal, characterized in comprising:

- 25 a displaying order deciding step of selecting pre-

stored pieces of information responding to the retrieval request of information to decide a displaying order of information based upon a bid amount of money that corresponds to each of these pieces of information; and

5 a step of transmitting information to the terminal so that information is displayed in said decided displaying order.

10 The information providing method according to claim 9, characterized in that said displaying order deciding step is a step of deciding the displaying order of information based upon a probability that is calculated from a ratio of the bid amount of money of each selected information over a sum of bid amounts of money of selected pieces of
15 information.

11 The information providing method according to claim 10, characterized in that in said displaying order deciding step:

20 in a case where the number of selected information is m, and the number of display is n, a sum of bid amounts of money of m pieces of information is calculated, a ratio of the bid amount of money of information over said sum of bid amounts of money of m pieces of information is
25 calculated, and information of which the displaying order

is a first rank is decided based upon a probability proportional to magnitude of each of said ratios of m pieces of information;

continuously, a sum of bid amounts of money of $(m-1)$ pieces of information except the bid amount of money of said decided information is calculated, a ratio of the bid amount of money of information over said sum of bid amounts of money of $(m-1)$ pieces of information except the bid amount of money of said decided information is
5 calculated, and information of which the displaying order is a second rank is decided based upon a probability proportional to magnitude of each of said ratios of $(m-1)$ pieces of information;

this computation is performed until information of
15 which the displaying order is an $(n-1)$ -th rank is decided; and

finally, a sum of bid amounts of money of $(m-n+1)$ pieces of information except the bid amount of money of said decided information is calculated, a ratio of the bid
20 amount of money of information over said sum of bid amounts of money of $(m-n+1)$ pieces of information except said decided information is calculated, and information of which the displaying order is an n -th rank is decided based upon a probability proportional to magnitude of each
25 of said ratios of $(m-n+1)$ pieces of information, thereby

allowing the displaying order of information ranging from a first rank up to an n-th rank to be decided.

12 The information providing method according to one of
5 claim 10 and claim 11, characterized in including the steps of:

recording the number of times of display of each information in a terminal and the click number of each information displayed in the terminal; and

10 deciding the displaying order of information based upon a probability that is calculated from a ratio of the bid amount of money of information over said sum of bid amounts of money and a ratio of the click number to said number of times of display.

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13 An advertisement information publishing system for providing advertisement information responding to a retrieval request from a terminal, characterized in comprising:

20 a database having advertisement information and a bid amount of money of said advertisement stored correspondingly;

an advertisement publishing order deciding means for, responding to the retrieval request from the terminal,
25 selecting corresponding pieces of advertisement

information from said database to deciding an advertisement publishing order of said advertisement information based upon a bid amount of money of each of these pieces of advertisement information; and

5 a means for transmitting advertisement information to the terminal so that an advertisement is displayed in said decided advertisement publishing order.

14 The advertisement information publishing system
10 according to claim 13, characterized in that said advertisement publishing order deciding means is configured so as to decide the advertisement publishing order based upon a probability that is calculated from a ratio of the bid amount of money of each advertisement that
15 becomes an object of display over a sum of bid amounts of money of advertisements that become an object of display.

15 An advertisement information publishing method of providing advertisement information responding to a
20 retrieval request from a terminal, characterized in comprising:

 a step of selecting corresponding pieces of advertisement information responding to the retrieval request from the terminal;

25 an advertisement publishing order deciding step of

deciding an advertisement publishing order of
advertisement information based upon the bid amount of
money of each of said selected pieces of advertisement
information; and

5 a step of transmitting advertisement information to
the terminal so that an advertisement is displayed in said
decided advertisement publishing order.

16 The advertisement information publishing method
10 according to claim 15, characterized in that said
advertisement publishing order deciding step is a step of
deciding the advertisement publishing order based upon a
probability that is calculated from a ratio of the bid
amount of money of each advertisement that becomes an object
15 of display over a sum of bid amounts of money of
advertisements that become an object of display.

17 A controlling program of an information processing
unit for providing advertisement information responding to
20 a retrieval request from a terminal, characterized in
causing said information processing unit to function as:
an advertisement publishing order deciding means for,
responding to the retrieval request from the terminal,
selecting corresponding pieces of advertisement
25 information from a database having advertisement

information and a bid amount of money of an advertisement
stored correspondingly to deciding an advertisement
publishing order of said advertisement information based
upon the bid amount of money of each of these pieces of
5 advertisement information; and

a means for transmitting advertisement information to
the terminal so that an advertisement is displayed in said
decided advertisement publishing order.

10 18 The controlling program of an information processing
unit according to claim 17, characterized in causing said
information processing unit to function as a means for
deciding the advertisement publishing order based upon a
probability that is calculated from a ratio of the bid
15 amount of money of each advertisement that becomes an
object of display over a sum of bid amounts of money of
advertisements that become an object of display.